

GAL, Gyorgy, dr.

Medical services for industrial workers. Nepegeszsegugy 41 no.10:  
277-285 0 '60.

(INDUSTRIAL MEDICINE)

GAL, Gyorgy, dr.; HEMETH, Andras, dr.

Role of the "absolute" eosinophil count in the prognosis of acute uremia. Orv.hetil. 101 no.50:1770-1773 11 D'60.

1. Szegedi Orvastudomanyi Egyetem, I. Sebeszetli Klinika.  
(UREMIA blood)  
(EOSINOPHILS)

GAL, Gyorgy, dr.; PAAL, Gyorgy, dr.

More important questions relating to the development and organization structure of factory sanitation. Munkavedelem  
7 no.7/9:26-30 '61.

NEMETH, Andras, dr.; GAL, Gyorgy, dr.; FAZAKAS, Sandor, dr.

The role of hypermagnesemia in uremic "toxicosis". Orv. hetil. 102  
no.20:913-917 14 My '61.

1. I sz. Sebeszeti Klinika, Szeged.

(MAGNESIUM blood) (UREMIA blood)

HUNGARY

GAL, Gyorgy, Dr, NEMETH, Andras, Dr, FAZEKAS, Sandor, Dr; Medical University of Szeged, I. Surgical Clinic (Szegedi Orvostudomanyi Egyetem, I. Sebeszeti Klinika).

"Some Aspects of Kidney Complications Following Septic (Criminal) Abortus."

Budapest, Orvosi Hetilap, Vol 104, No 23, 9 June 63, pages 1066-1069.

Abstract: [Authors' Hungarian summary] Clinical data and conclusions are presented on 24 cases of kidney failure following septic abortions. Eight deaths are reported. The applied combined treatment for the acute uremia was effective and decrease of the mortality rate is expected from a more effective treatment of the inflammatory complications that followed. 11 Hungarian, 4 Western references.

1/1

HUNGARY

ALTORJAY, Istvan, Dr, SCULTEY, Sandor, Dr, BALOGH, Eleonora, Dr, KARPATI, Ferenc, Dr; Medical University of Szeged, I. Surgical Clinic (Szegedi Orvostudomanyi Egyetem, I. Sebeszeti Klinika).

"Kidney Homotransplantation Between Brothers."

Budapest, Orvosi Hetilap, Vol 104, No 43, 27 Oct 63, pages 2017-2023.

Abstract: [Authors' Hungarian summary modified] Homotransplantation of a kidney has been performed on a patient in the final stages of uremia. Before surgery, 150 r whole-body irradiation and 200 r local irradiation on the spleen has been given. Immediately after surgery and four days later, 200 r doses each were applied to the transplanted kidney. Because of impaired function later, a total of 250 r were given to the whole body and 200 r to the transplant, in order to prevent the rejection process. The transplant functioned well for 6 weeks and during this time the condition of the patient was good. After a gradual impairment of function, the patient died on the 79 post-operative day under uremic and septic symptoms. Sixteen days before death, the other kidney has been removed. No typical rejection processes were indicated by the histological examination of the transplant but the extensive obliterating vessel changes, of unknown cause, explain the gradual decrease of kidney function. 1 Hungarian, 8 Western references.

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GAL, Gyorgy, dr.; FAZAKAS, Sandor, dr.; NEMETH, Andras, dr.

Dialysis in the treatment of barbiturate poisoning. Orv. hetil.  
106 no.26:1211-1213 27 Je'65.

1. Szegedi Orvostudomanyi Egyetem, I. Sebeszeti Klinika (igaz-  
gato: Petri, Gabor, dr.).

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000614020002-6

GAL, Gyorgy Sandor

Liszt-Bartek Year. Hungarian TU no.9:20-21 S '61.

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000614020002-6"

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28. Determination of the halogen content of organic compounds — I. Simonov, G. Tokár and Gy. Gála (Magyar Kémiai Folyóirat — Vol. 69, 1951, No. 1, pp. 97-98, 1 tab.)

The process is suitable for the simple and rapid determination of the halogen contents of organic compounds. The method is based on the dehalogenation process effected by reduction. The determination was carried out in acid or basic media — depending on the nature of the compound — with nascent hydrogen in the presence of hydrogen transporting catalysts. Raney nickel catalyst with a 2-3% aluminium content was found convenient in basic solutions. In acid media granulated zinc and sulphuric acid were used to produce hydrogen. And palladium charcoal was used as a catalyst. After the dehalogenation process was completed (about 30 to 60 minutes), the halogen ions set free in the solution were determined by the Volhardi method. The compounds examined — containing hydrogen instead of the halogen atoms, and the reducible groups reduced — could be recovered in most cases from this solution for further analysis. Error of the method is  $\pm 0.5\%$ .

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AB

GAL, GY.

**Preparation of 4-hydroxyphenylglyoxal by the condensation of phenol and chloral.** G. Gal Székely, Magyar Kémiatudományos Akad. Általános Körzete, Budapest (Hungary), Acta. 7, No. 2, 4-6 (1955). The reaction of phenol with chloral in the presence of potassium carbonate in 70% 4-hydroxyphenyl(trichloromethyl)carbinol (4-hydroxyphenylglyoxal) and some amount of resinous product. Isolation of 4-hydroxyphenylglyoxal, i.e. its bisulfite K salt, an important intermediate in the prep. of 4-hydroxyphenylmethylglycol (Symipatol), was successfully carried out starting with the condensation product obtained by the procedure described in this article. 4-hydroxyphenylglyoxal was apd. in yields of 60 to 93% from the crude condensation product obtained by treatment of phenol with chloral, boiling 10-11 hr. with a 20-fold vol. of water in the presence of cupric chloride as a catalyst to accelerate hydrolysis and potassium pyrosulfite as an acid-binding agent. The importance of the presence of an acid-binding substance is stressed to prevent the formation of resinous products by the action of HCl, liberated during the hydrolysis, on the 4-hydroxyphenylglyoxal compd. thereby reducing the over-all yield. Method: are given the volumetric data of the 4-hydroxyphenyl(trichloromethyl)carbinol content of the crude condensation product (1 ml. of 0.1N  $\text{AgNO}_3$  corresponding to 2.03 mg. 4-hydroxyphenyl(trichloromethyl)carbinol) and for the iodometric titration of the 4-hydroxyphenylglyoxal by the bisulfite process. R. H. S.

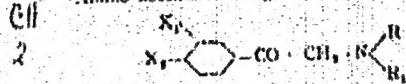
APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000614020002-6"

GAL, GY

24. The reactions of aryl  $\omega$ -aminobenzyl ketones with  
Fehling's reagent — I. Simonov, G. V. Gal, G.  
Tokar. (Magyar Kézirat Polgári 1957, No. 10, pp. 299-302, 3 tabs.)

Amino ketones of the general type



where  $\text{X}_1$  and  $\text{X}_2$  =  $\text{H}$ ,  $\text{OH}$ ,  $\text{NH}_2$ ,  $\text{NO}_2$ ,  $\text{R}$  and  $\text{R}'$  =  $\text{H}$ ,  $\text{CH}_3$ ,  $\text{C}_2\text{H}_5$ ,  $\text{C}_3\text{H}_7$ ,  $\text{C}_4\text{H}_9$ ,  $\text{CH}_3\text{CH}_2\text{C}_2\text{H}_5$ . Boiled with Fehling's solution yields  $\text{N}_2\text{H}_4\text{N}_2$  substituted benzaldehydes, formic acid and a substituted aliphatic amine of the general type  $\text{HN}_2\text{R}'$  by oxidative hydrolysis. It was found that the formation of the amine proceeds quantitatively and thus a convenient method is given for the simple and rapid determination of the compound with the general formula mentioned above. The determination is carried out conveniently in a Schulze-Vastagh ammonia distillation apparatus. The sample of amino ketone hydrochloride was weighed on an analytical balance, dissolved in water and added drop by drop to boiling Fehling's solution. The neutralized amine compound formed was

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absorbed into standard acid of known volume. By backtitrating the excess acid the amount of amine found - equivalent to the amount of amine ketone present - was calculated.

GAL, GY.

Detection of small amounts of 2-diethylamino-  
nitrobenzene in the presence of procaine,  
C. S. and G. Gal, Magyar Képzet, 7, No. 1, 321-3 (1954); Hung. Tech. Acta, 7, No. 2, 1965. A  
method was evolved for the detection of 2-diethylamino-  
ethyl *p*-nitrobenzoate (I) in the presence of procaine.  
Both compounds will form water-insol. pps. with the  
reagents. The complex salts thus obtained show different  
solubilities in acid media owing to the nature of the  
substituents on the phenyl radicals. A procedure is  
described which is suitable for the detection of the  
nitro compd. by using phloro acid in a mixt. compd. of  
98% procaine and 2% I. It was possible to detect 0.3  
I in the presence of 0.1 g. procaine dissolved with 10  
mercurite in 10 ml. of water. The method is ideal for  
the rapid and simple detection of the end point during  
the reaction of the I.

Gá1, Gy.

16. Investigations concerning the synthesis and determination of tropinone. (In English) Gy. Gá1. L. Sztámonyl, G. Tokai. *Acta Chimica Academiae Scientiarum Hungaricae*. Vol. 6, 1955, No. 3-4, pp. 363-371. 3 tabs.

Chem

3

In contrast to the 54% yield attained earlier by some researchers the author succeeded in preparing tropinone with an 80% yield (referred to succinic dialdehyde) starting from succinic aldehyde, acetone dicarboxylic acid and methylaniline in the presence of sodium citrate. A method was evolved at the same time for the rapid and accurate quantitative determination of tropinone in samples taken from the batches during the synthesis process. The method involves the preparation of the water, acid and ethanol-insoluble reineckate, and tropinone is determined gravimetrically in this form. With this new procedure the formation of tropinone is completed in six hours at 22 °C and four hours at 32 °C. Thus it was proved that it is unnecessary to prolong the reaction time for two or three days as prescribed in literature.

PM

GAL,GY.

GAL, GY. Role of aluminum halogen alcoholates in the Meerwein-Ponndorf-Verley reduction. II. Reduction of -bromoketones by a mixture of aluminum isopropylate and aluminum chloro-isopropylate. In English. p.163.

Vol. 8, no. 1/3, 1955

ACTA CHIMICA

SCIENCE

Budapest, Hungary

So: East European Accessions, Vol. 5, no. 5, May 1956

Gál, György

✓ Synthesis and determination of tropinone. Gulyás

Gál, István, Shmónyi, and Géza Tokár (United Pharmaceutical Factory, Budapest). Magyar Kém. Folyoirat 61, 74-7 (1955).—Tropinone was detd. in the reaction mixt. as follows. To a sample adjusted to pH 2 and to another adjusted to pH 6, resp., was added a 1% aq. soln. of Rehweck salt in 20-30% excess (the supernatant should remain durably pink), the liquid made up with dstd. water to 50 ml., allowed to stand 1 hr., filtered (glass filter 1GB), and the filter cake washed with dstd. water, then twice with 5 ml. 90% EtOH, dried 30 min. at 105°, and weighed. The tropinone reineckate, m. 181-2°, contained N 0.09, Cr 11.18%. In synthesizing tropinone, a reaction mixt. contg. 4.3 g.  $(\text{CH}_3\text{CHO})_2$  was treated with 11.7 g.  $\text{CO}(\text{CH}_2\text{CO}_2\text{H})_2$ , the mixt. adjusted with  $\text{K}_2\text{CO}_3$  to pH 5, 50 ml. of 12% neutral soln. of Na citrate and 3.1 g.  $\text{MeNH}_2\text{HCl}$  added, and the soln. made up with dstd. water to 150 ml. and allowed to stand for periods varying from 1 to 50 hrs. gave 80% tropinone. Also in Acta Chem. Acad. Sci. Hung. 6, No. 3-4, 363-71 (1955). István Kulyás

GAL G.

✓ 34. Determination of penicillin by a new chemical method — G. Tokár, I. Simonyi, G. Gal  
(Magyar Kémiai Folyóirat — Vol. 61, 1955, No. 5, pp. 146—149, 3 tabs.)

It was found that Pechling's reagent is reduced by penicillin and simultaneously ammonia is set free. From the two existing nitrogens that of the acid amide group in the penicillin molecule is transformed quantitatively into ammonia and by its acidimetric titration the reaction is suitable for the convenient and rapid determination of penicillin. The method was found useful for the determination of dibenzyl-ethylenediamine-dipenicillin salt and other penicillin combinations. The determination is conveniently carried out in a Schulek-Vastagh type apparatus constructed for the distillation of ammonia. To a sample weighed with analytical precision the following reagents are added in a 1:1 ratio: 00 g  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  dissolved in 1000 ml of distilled water, 34 g NaOH and 100 g  $\text{KNaC}_6\text{H}_5\text{O}_2$ . Then the mixture is boiled. The ammonia distilling off is absorbed into an acid solution of known concentration. Excess acid is back-titrated thereby establishing the quantity of liberated ammonia which is equivalent to the penicillin present in the sample. The method yields adequate analysis data with either 0.1 N or 0.01 N solutions.

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GAL, EY

The role of aluminum halogen alkoholates in the Meerwein-Ponndorf-Verley reduction. I. G. Y. O'Neil  
G. Tokár, L. Lászlo, J. Magyar, Károly Pálinkás  
Vol. 01, 1955, No. 9, pp. 208-274, 6 figs., 8 tabs.

*Chem.*

Partial or total reductive dehalogenation occurs if the preparation of aluminum alkoholates is conducted in the presence of alkyl halides, and alkoxo aluminum halides of the general formula  $X\cdot Al(OR)_3$  are produced by the action of the liberated halogen acids. For instance by refluxing 1 mol. of aluminum in the presence of mercuric chloride in isopropyl alcohol with 0.55 mol. of carbon tetrachloride aluminum chlorosopropylate  $[Cl\cdot Al(OCH_2CH_3)_3]$  was obtained in yields of 72 to 75% which separated from the reaction mixture as a crystalline precipitate. It was found that the velocity of the Meerwein-Ponndorf type reduction of carbonyl compounds was generally appreciably increased when the aluminum isopropylate employed contained 20 to 35% of aluminum isopropylate. It proved to be especially advantageous to conduct the reduction with aluminum chlorosopropylate-aluminum isopropylate mixtures. If upon prolonged heating with aluminum isopropylate the compound yielded unwanted by-products. The reactions took place at lower temperatures by using the mixed agent consequently the quantity of by-products diminished. The reduction of different halogen ketones, acylamino hydroxylketones, and unsaturated ketones, was realized successfully with excellent yields by employing mixtures of aluminum isopropylate and aluminum chlorosopropylate.

*PM*

GAL, GY.; TOKAR, G.; SIMONYI, I.

GAL, GY.; TOKAR, G.; SIMONYI, I. Effect of aluminum halogen alcoholates in the Meerwein-Ponndorf-Verley reduction. I. Changes in rates of reaction and in equilibrium values at reductions carried out in the presence of aluminum halogen alcoholates. In English. p. 421.

Vol. 7, no. 3/4, 1955  
ACTA CHIMICA  
SCIENCE  
HUNGARY

So: East European Accessions, Vol. 5, No. 9, Sept. 1956

GAL, GY.; SI'ONYI, L; TOKAR, G.

Role of aluminumhalogen alcoholates in Meerwein-Ponndorf-Verley reductions. II.  
Reduction of  $\gamma$ -bromoketones with a mixture of aluminum isopropyl and aluminum chlor-  
isopropyl. III. Determination of the oxo group by modified Meerwein reduction.  
p. 362. Vol 61, No. 11, Nov. 1955. ACTA ZOOLOGICA, ELET UJ TUDOMANY, and MAGYAR  
KEMIAI FOLYOIRAT. Budapest, Hungary.

So: Eastern European Accession. Vol. 5, no. 4, April 1956

Gal Gr.

Determination of the halogen content of organic  
compds. T. I. Simonyi, G. Toxai, and Gy. L. Kemenes  
Kemias Polgáriat 56, 67-8 (1954); Hung. Tech. Akad. J.  
1, 7 (1955). — The process is suitable for the simple and  
precise detn. of the halogen contents of org. compds. The method  
is based on the dehalogenation process effected by reduction.  
The detn. was carried out in acid or basic media, depending  
on the nature of the compd., with incipient H in the presence  
of H-transporting catalysts. Raney Ni catalyst with a  
2-3% Al content was found convenient in basic solns. In  
acid media granulated Zn and H<sub>2</sub>SO<sub>4</sub> were used to precipitate  
H, and Pd charcoal was used as a catalyst. After the  
dehalogenation process was completed (about 30-40 min.),  
the halogen ions set free in the soln. were titrated by the  
Volhardt method. The compds. examd. (contg. H instead  
of the halogen atoms) and the reducible groups (reduced)  
could be recovered in most cases from this soln. for further  
analyses. Error of the method is 0.5%. — K. L.

SM 4/20/86

C &amp; L, B

*Blum*

226 of aluminum alkoholates in the Meerwein-Ponndorf-Verley reduction. III. Determination of the keto group by a modified procedure. I. Simonyi, G. Tokai and G. Gal (Acta chim. mag., 1956, 10, 217-226).—The reaction of CO<sub>2</sub> compounds with Al(OPr)<sub>3</sub> (I) giving acetone goes more rapidly in presence of Al chlorotripropoxide (II). Use of a 9-10% solution of I and 6.5% of II both in PrOH is described as a quant. method. After refluxing the substance with this reagent in solution in benzene-alcohol (15-60 min.), the acetone formed is distilled off into 1% in NH<sub>4</sub>OH-HCl. Excess of the latter is determined by titration to phenolphthalein after neutralizing with HCl to a bluish green colour with bromophenol blue. Results given for 16 complex ketones and aldehydes are correct within 1.2% of theory. A. H. DENNISTON

3

Gál György

✓ 12277\* (Hungarian.) The Role of Aluminum-Halide Alcohohates in the Meerwein-Ponndorf-Verley Reduction. Aluminium-halogénaalkoholátok szerepe a Meerwein-Ponndorf-Verley redukciójában. IV. György Gál and Istvánne Krasznai. Magyar Kémiai Folyóirat, v. 62, no. 5, May 1956, p. 155-158.  
Reduction of aldehydes and unsaturated ketones with a mixture of aluminum-isopropylate and aluminum-chloro-isopropylate.

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GAL, GYORGY

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12842\* (Hungarian). The Role of Aluminum in the Reduction of Alumin-halogénnaliholátkok szerepe a Meerwein-Ponndorf-Verley-redukálásban. V. Reduction of  $\alpha$ -Oxyanaphthalene,  $\alpha$ -Oxindoloketonek redukciója. Gyuray, Gal, Ilyin, Földes, and Istvánne Kerecsen. Magyar Kémiai Folyóirat, 1937, p. 5-11.

EM

WY

GAL, Gyorgy, dr.; NEMETH, Andras, dr.; PINTER, Imre, dr.

Hemodialysis in the therapy of severe barbiturate poisoning.  
Orv. hetil. 97 no.21:582 20 May 56.

1. A Szegedi Orvost. Egy. I. sz. Seb. Klin. (igaz. Jaki Gyula dr.  
egyet. tanar) es Korelettani Intex. (igaz.: Karady Istvan dr.  
egyet. tanar) kozl.

(BARBITURATES, pois.

ther., hemodialysis in severe pois. (Hun))

(DIALYSIS

hemodialysis, ther., severe barbiturate pois. (Hun))

(KIDNEYS, artif.

same)

(POISONING

barbiturates, ther., hemodialysis in severe pois. (Hun))

Gal, Gyorgy

Hungary/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61476

Author: Gal, Gyorgy; Simonyi, Istran; Tokar, Geza

Institution: None

Title: Role of Aluminum Haloalcoholates in the Meerwein-Ponndorf-Verley Reduction. II. Reduction of  $\alpha$ -Bromoketones by Means of a Mixture of Aluminum Isopropylate and Aluminum Chlorisopropylate

Original

Periodical: Aluminium-halogenalkoholatok szerepe a Meerwein-Ponndorf-Verley redukcional. II.  $\alpha$ -Bromketonok redukcija aluminium izopropilat es aluminium-klorizopropolat keverekkevel, Magyar. kem. folyoirat, 1955, 61, No 11, 362-367; Hungarian; German resumé; Acta chim. acad. sci. hung., 1955, 8, No 1-3, 63-169; English; Russian and German resumés

Abstract: Reduction of  $\alpha$ -secondary bromoketones and  $\alpha$ -bromisobutyrophenone (I) according to Meerwein-Ponndorf, using the mixture (iso- $C_3H_7O$ )<sub>3</sub>Al (II) + (iso- $C_3H_7O$ )<sub>2</sub>AlX (III) (X = Br, IVX = Cl) gives a

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Hungary/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61476

**Abstract:** good yield of corresponding bromohydrines. Formation of  $C_6H_5CHBrC(CH_3) = CH_2$  and  $C_6H_5CH = C(CH_3)CH_2Br$  in the course of the reduction of I with II (Stevens, P. G., et al, J. Amer. Chem. Soc., 1940, 62, 1424) is due to intermediate formation of  $C_6H_5CHOHCB(CH_3)_2$  (V). To  $\alpha$ -bromopropiophenone (VI) (from propiophenone and  $Br_2$ , 0.3 mol each in 200 ml absolute  $C_6H_6$ ) are added within 10-15 minutes 0.9 mol II in 400 ml absolute  $C_6H_6$ , and let stand at  $\sim 20^\circ$ . II reacts partially with HBr contained in the solution and yields III; molar ratio II:III 0.66:0.24. After 24 hours (degree of conversion 92.5%) poured into a mixture of 1 kg ice 100 ml concentrated  $H_2SO_4$ , yield of  $C_6H_5CHOHCHBrC_2H_5$  (VII) 84.1%, BP 102-104°/5 mm. On reduction (48 hours) of  $\alpha$ -bromopropiophenone (0.3 mol) with mixture of 0.3 mol II and 0.1 mol IV yield of VII is 81.7%, to a solution of 0.6 mol II and 0.2 mol IV in 600 ml absolute  $C_6H_6$  are added with cooling within 15-20 minutes 0.5 mol 2-bromocyclo-hexanone, let stand for 24 hours, yield of 2-bromo-cyclohexanol 73%, BP 85-87°/10 mm. High yields and absence of products containing no Br (see Stevens, et al, loc. cit.) are due to low temperatures of the reaction ( $0-20^\circ$ ) possibly due to the

Card 2/3

Hungary/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61476

Abstract: accelerating action of III or IV. To a solution of 1 mol II and 0.4 mol IV in 1.2 l absolute C<sub>6</sub>H<sub>6</sub> are added dropwise (30 minutes, 0-3°) 1 mol I let stand for 24 hours in the cold, yield of V 98.5%,  $n^{25}_{D}$  1.5497. On distillation (5 mm) V loses water and is converted to C<sub>6</sub>H<sub>5</sub>CHC(CH<sub>3</sub>)CH<sub>2</sub>Br. Acetyl derivative of V (from 22.9 g V and 50 ml CH<sub>3</sub>COCl, boiled for 2 hours, yield 17.2 g) BP 117-119°/5 mm, MP 55-56° (from ethyl acetate + petroleum ether). Velocity of reduction of I and isobutyrophenone with mixture of II and IV (1:2) is about equal. Communication I, see Referat Zhur - Khimiya, 1956, 57915.

Card 3/3

✓ 1586. The role of aluminum halogen alkoholates  
in the Meerwein-Ponndorf-Verley reduction. III.  
Determination of the  $\alpha,\beta$  group by a modified  
Meerwein reduction. I. Sajnonyi, G. Tokar and  
G. Gal (United Pharm. and Nutrition Factory,  
Budapest). *Acta Chim. Acad. Sci. Hung.*, 1953,  
10 (1-3), 217-226 (in English).—This paper has  
already been published in Hungarian, in *Magyar  
Kém. Foly.*, 1955, 61, 307. Cf. *Anal. Abstr.*, 1955,  
3, 1757.

Gal, Gy

HUNGARY / Organic Chemistry. Synthetic Organic Chemistry.

G-2

Obs Jour : RZhKhim., No 10, 1958, No 32412

Author : György Gal, Istvan Simonyi, Goza Tokar.

Inst : Not given

Title : Corrections to the Paper of Gal, Simonyi and Tokar "Part of  
Aluminum Halogenalcohoholates at the Reduction by Moorwoin-  
Ponndorf-Weber. II. Reduction of -Bromoketonos with  
Mixed Aluminum Isopropylato and Aluminum Chloroisopropylato".

Orig Pub : Magyar kom. folyoirat, 1956, 62, No. 3, 112.

Abstract : To RZhKhim, 1956, 61476

Card 1/1

11

GAL, GYORGY

Distr: 4E2c(j)/b3d

The role of aluminum bisalkoxides in Meerwein-Ponndorf-Verley reductions. IV. Reduction of aldehydes and unsaturated ketones with a mixture of aluminum isopropylate and aluminum chloroalcoxitate. (Quoted from Mrs. Irvin L. Krasniak (General Chemical Co., Inc., Exempt). Angew. Chem. 70, 155-6 (1948); C.A. 42, 170. The Meerwein reduction is modified using a combination (2/3:1/3) of Al isopropylate and chloroisopropylate (C.A. 52, 805f) at low temp. (approx 25-40°). The modification reduces side reactions (e.g. Tishchenko reaction during reduction of aldehydes). *1/1*

35mAY

GAL, Gy.; FOLDESI, I.; KRASZNAI, I.

The role of aluminum-halogen-alcoholates in the Meerwein-Ponndorf-Verley reduction. V. Reduction of  $\alpha$ -Oximinoketones. p. 5. (Magyar Kemiasi Folyoirat, Vol. 63, No. 1, Jan 1957, Budapest, Hungary)

SO: Monthly List of East European Accessions (FEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

GAL, GY KRASZNAI, I.

Reaction of aluminum chloride isopropylate with sodium borohydride; a preliminary communication. p. 92.

(Magyar Kemiai Folyoirat. Vol. 63, no. 2/3, Feb./Mar. 1957. Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

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 HUNGARY / Organic Chemistry. Synthetic Organic Chem- G  
 istry.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61016.

Author : Gyorgy Gal, Istvanne Krasznai.

Inst :  
 Title : Selective O-Disacylation of N,O-Diacyl Compounds.

Orig Pub: Magyar kem. folyoirat, 1957, 63, No 6-7, 176-179.

Abstract: An addition of 20 to 30% of  $(\text{iso-C}_3\text{H}_7\text{O})_2\text{AlCl}$  to  $(\text{iso-C}_3\text{H}_7\text{O})_3\text{Al}$  results in a reagent, which accelerates the reesterification of carboxylic acids with the formation of isopropyl esters. Only O-disacylation with 75 to 95%ual yields takes place at the action of that reagent on N,O-diacyl derivatives mixed with  $\text{C}_6\text{H}_6$ -iso- $\text{C}_3\text{H}_7\text{OH}$ , which has been confirmed by many examples, where the O-acyl and the N-acyl groups are in the compounds of the

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Egyesult Gyogygyan- és Seppenyogi Kutatobors  
 39

HUNGARY / Organic Chemistry. Synthetic Organic Chem- G  
 istry.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61016.

Abstract: fatty or the aromatic series, or the O-acyl group is in the fatty radical, and the N-acyl group is in the aromatic radical. O-acetyl, benzoyl and tozyl compounds are re-esterized easily, and 4-nitrobenzoyl compounds are re-esterized with difficulty. Methyl-(4-tozylaminophenyl)-carbinol, melting point  $112^\circ$  (from benzene-petroleum ether) was prepared by the reduction of  $n\text{-CH}_3\text{C}_6\text{H}_4\text{SO}_2\text{NH}_2\text{C}_6\text{H}_4\text{COCH}_3$  with Al isopropylate and converted into tozylate, melting point  $117^\circ$  (from petroleum ether) by the reaction with  $\text{CH}_3\text{C}_6\text{H}_4\text{SO}_2\text{Cl}$  in the presence of pyridine.

Card 2/2

4411, 6

HUNGARY / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61017.

Abstract: in C<sub>6</sub>H<sub>6</sub> for the preparation of I. The rate and the temperature of the dissociation of I (40 to 230°, 1 hour) depend on the R and are similar to the thermal dissociation of ClB(OR)<sub>2</sub>. The main dissociation products are RCl and corresponding olefins, alcohol and ester. The rate of reduction according to Meerwein in the presence of ClAl(OC<sub>3</sub>H<sub>7</sub>-iso)<sub>2</sub> (Ia) rises while its amount in the mixture with III does not exceed 35%. The reduction rate decreases noticeably at the concentration of Ia above 70%. These dissociation processes are explained by the formation of the

Card 2/3

HUNGARY / Organic Chemistry. Synthetic Organic Chemistry. G

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000614020002-6"

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61017.

Abstract: intermediate (less stable) R'R"CHOAl(Cl)OC<sub>3</sub>H<sub>7</sub>-iso.

Card 3/3

38. Selective O-deacylation of  $N,N$ -diacyl compounds by using a mixture of aluminium isopropylate<sup>7</sup> and chloro-aluminium isopropylate.<sup>8</sup> (In English) G. V. Gulyás, E. Krasznai, et al. *Acta Chimica Academiae Scientiarum Hungaricac*, Vol. 17, 1958, No. 2, pp. 171-179, 1 fig., 3 tabs.

It was found that the ratio of over-esterification reactions catalyzed by aluminium isopropylate can be raised if 20-30% of the aluminium isopropylate is substituted by chloro-aluminium isopropylate.  $N,N$ -diacyl compounds, when heated in a solution of alfa-isopropyl alcohol or in benzene with a mixture of aluminium isopropylate and chloro-aluminium isopropylate, can be selectively O-deacylated without the cleavage of the N-acyl bond. This type of selective O-deacylation can be carried out in fair yields with both aliphatic and aromatic compounds. While O-acetyl, O-benzoyl and O-trityl compounds proved to be readily processable, 4-nitrobenzoyl esters reacted only slightly. When chloro-aluminium isopropylate was reacted with carboxylates, in addition to over-esterification, a decomposition of various forms of chloro-aluminium isopropylate as well as of the now haloid aluminium isohydolate formed during the over-esterification also took place, the direction of which was determined by the structure of the latter products.

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4E2C 4j  
4E3

- Gal Gy

HUNGARY/Analytical Chemistry. Analysis of Organic Substances.

E

Abs Jour: Ref Zbür-Khim, No 9, 1959, 31092.

Author: Tokar, G., Gal Gy., Solomyi, I.

Inst.: Hungarian Academy of Sciences.

Title: New Chemical Methods Applicable in Organic Analysis  
and Their Significance in Preparative Work.

Orig. Pub: Acta chim. Acad. scient. Hung. 1958, 15, No 4,  
375-384.

Abstract: A quick and simple method for the determination of organically bonded halogens (H) was developed. The method is based on the quantitative exchange of an active catalyst of halogen atoms with hydrogen at the moment of liberation. The weighed portion of the substance being analyzed is dissolved in water,  $\text{C}_2\text{H}_5\text{O}$  or in

Card : 1/3

RUSSIAN/Analytical Chemistry. Analysis of Organic Substances.

E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 31092.

$C_3H_7OH$ , or in other solvents not containing H or their mixtures. In analysis in an alkaline medium the alkali concentration is fixed at the level of 1.2%. A small amount of Ni catalyst containing 3-5% of Al is introduced and a whole is heated for 30-50 minutes. A reflux condenser is used. The not very strongly bonded " separates in 15-20 minutes. The solution is then filtered free from the catalyst, acidified with  $HNO_3$  and iron H is determined according to Volhard's method. The de allogenation of organic substances that become very resinous or acquire dark coloration in an alkaline medium is performed in an acid solution using bone charcoal as catalyst and granulated Zn for the liberation of  $H_2$ . The method is applicable when the concentration of substances undergoing analysis is

Card : 2/3

107

HUNGARY / Organic Chemistry. Synthesis.

G

Abs Jour: ref Zhur-Khimiya, No 7, 1959, 23331

Author : Gal, Gy.; Foldesi, I.; Krasnai, E.

Inst : Academy of Sciences, Hungary

Title : Role of Halogen Aluminium Alcohohlates in the  
Meerwein-Ponndorf-Verley Reduction. V. Reduction  
of  $\alpha$ -Oximinoketones.

Orig Pub: Acta chim. Acad. scient. hung., 1958, 16, No 3,  
279-290.

Abstract: See RZhKhim, 1958, 39541.

Card 1/1

G-5

HUNGARY / Organic Chemistry. Synthesis.

G-2

Abs Jour: Ref Zhur-Khimiya, No 7, 1959, 23452

Author : Gal, Gy.; Krasznai, E.  
Inst : Academy of Sciences, Hungary  
Title : Stability of Halogen Aluminum Alcoholates.

Orig Pub: Acta chim. Acad. scient. hung., 1958, 16, No 4,  
369-377.

Abstract: The thermal dissociation of chloroaluminum alcoholates (ChAA) - catalysts in the reduction of oxo compounds with aluminum isopropylate (I) (by Meerwein's method) was studied. ChAAs of the general formula  $\text{ClAl}(\text{OR})_2$  dissociate at 150-200° depending on the nature of the radical R. The type of the thermal dissociation is qualitatively the same as that of analogously constructed halogen esters of boric acid: a)  $3\text{ClAl}(\text{OR})_2 \rightarrow \text{Al}_2\text{O}_3 + \text{Al}(\text{OR})_3^-$

Card 1/6

G-21

HUNGARY / Organic Chemistry.. Synthesis.

G-2

Abs Jour: Ref Zhur-Khimiya, No 7, 1959, 23452

Abstract: + 3RC1; b)  $3ClAl(OR)_2 \rightarrow Al_2O_3 + Al(OR)_3 + 3$  olefins + 3RC1; c)  $2ClAl(OR)_2 \rightarrow Al_2O_3 + Cl_2AlOR$ ; d)  $2Cl_2AlOR \rightarrow AlCl_3 + ClAl(OR)_2$ . Besides, the reaction  $Al(OR)_3 + HCl \rightarrow ClAl(OR)_2 + ROH$  takes place. In the presence of Lewis's acids (0.05-1% of  $FeCl_3$  or  $AlCl_3$ ), the temperature of ChAA dissociation decreases very much. On the contrary, Lewis's bases stabilize the ChAAs. The amounts of RC1 and olefin formed in accordance with the equations a and b are 70-85 and 3-8% respectively; however, in the dissociation of chlorine aluminum isopropylate (II), 28% of propylene and only 55% of iso- $C_3H_7Cl$  are formed. The rate of Meerwein's reaction in the presence of II rises while the amount of II does not exceed 35% of the amount of I; the rate

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APPROVED FOR RELEASE: 09/17/2001 G-2 CIA-RDP86-00513R000614020002-6"

Abs Jour: Ref Zhur-Khimiya, No 7, 1959, 23452

Abstract: of reduction does not change at larger amounts of II (35-70%); on further increase of the amount of II, reactions of another direction are observed, even under conditions under which II is still stable. The mechanism in the catalytic action of II in Meerwien's reaction is discussed: first, a complex is formed from the oxo compound  $R'R''CO$  and II, this complex loses a molecule of acetone at a high enough temperature and converts into a "mixed" ClAA of the formula  $R'R''CHOAl-(Cl)OCH(CH_3)_2$ , which is less stable thermally than the ordinary ClAA. The interaction between the "mixed" ClAA and I results in the normal product of reduction under the condition that the amount of the I present does not exceed the amount of II. Under different conditions, the "mixed" ClAA causes the process of

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G-22

Gal, G.

HUNGARY/Organic Chemistry. Organic Synthesis.

G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38584.

Author : Gal, G. and Krasznai, E.  
Inst : Hungarian Academy of Sciences.  
Title : The Selective O-Deacylation of N,O-Diacyl Compounds  
with a Mixture of Aluminumisopropylate and Chloroalumi-  
numisopropylate.

Orig Pub: Acta Chim Acad Sci Hung, 17, No 2, 171-179 (1958)  
(in English with German and Russian summaries)

Abstract: The rate of the transesterification reactions cata-  
lyzed by  $\text{Li}(\text{OC}_3\text{H}_7\text{-iso})_3$  (I) can be increased  
by substituting 20-30% of the I used (used in a 3-4-  
fold excess over the stoichiometric amount of I) by  
 $\text{ClLi}(\text{OC}_3\text{H}_7\text{-iso})_2$  (II). N,O-diacyl derivatives can

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HUNGARY/Organic Chemistry. Organic Synthesis.

G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38584.

be O-deacylated without danger of cleavage of the N-bond by using a mixture of I and II. Acetyl, benzoyl, and tosyl derivatives react readily; 4-nitrobenzoyl derivatives react to a very insignificant degree. During the reaction a partial decomposition of II may take place with the formation of iso-C<sub>3</sub>H<sub>7</sub>Cl and propylene. When phenyl acetate is used, o-hydroxyl-acetophenone has also been isolated. A solution of 0.1 mol of the diacetyl derivative in 60-100 ml abs C<sub>6</sub>H<sub>6</sub>, CH<sub>2</sub>CH(OH)CH<sub>3</sub> (III), ClCH<sub>2</sub>Cl, Cl<sub>2</sub>, or a mixture of these solvents is treated with a solution of 0.1-0.15 mol I in 60 ml C<sub>6</sub>H<sub>6</sub> and 20 ml of a 1 M benzene solution of II, the solution is refluxed for 1-3 hrs, after which it is evaporated. The II, O-diacetyl derivatives, solvents used (ratio in parenthesis),

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G-14

HUNGARY/Organic Chemistry. Organic Synthesis.

G

Abs Jour: Ref Zhur-Khin., No 11, 1959, 38584.

reaction time in min, and the yield of the corresponding N-acylaminio alcohol in % are listed below in that order: N-benzoyl- $\beta$ -acetoxy- $\beta$ -phenylethylamine,  $C_6H_5$ , III (1 : 1), 25, 83; N, O-dibenzoyl-DL-norpseudoephedrine,  $C_6H_5$ , III (2 : 1), 25, 92; 3-benzamidophenylbenzoate,  $C_6H_5$ , III (2 : 1), 30, 98; 4-acetamidophenylacetate,  $C_6H_5$ , III (2 : 1), 25, 93; 4-benzamidophenylbenzoate,  $C_6H_5$ , III (2 : 1), 40, 95; 4-benzamidophenylacetate,  $C_6H_5$ , III (2 : 1), 35, 96; 2-acetamidobenzoylacetate,  $C_6H_5$ , 25, 78; 2-acetamido-benzylbenzoate, III,  $CHCl_3$  (1 : 1), 30, 83; 2-benzamido-benzylbenzoate, III, 35, 75; 2-benzamidobenzylacetate,  $C_6H_5$ , III (2 : 1), 25, 78, mp 95°; tosylate (IV) of methyl-(4-tosylaminophenyl)-carbinol (V),  $C_6H_5$ , III

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Distr: 4E2c(j)/4E3d

*7*  
The role of Aluminum haloalcoholates in the Meerwein-Ponndorf-Verley reduction. I. V. Reduction of  $\alpha$ -oximino ketones. Gyorgy Gal, Istvan Foldesi, and Mrs. Istvan Kruszai (Bolyai István György Tápszerelési Kútja (Lab., Budapest). Magyar Kém. Folyóirat 63, 5-11 (1958); cf. C.A. 52,

10872d.—A molar soln. of Al chloro- or bromoisopropylate was prep'd. by passing HCl or HBr (1 mole) through 204 g. of (iso-PrO)<sub>2</sub>Al (I) in C<sub>6</sub>H<sub>6</sub> or in PhMe with cooling and stirring. After removal of the solvent and the iso-PrOH formed, the residue was dild. to 1 l. Various  $\alpha$ - and  $\beta$ -benzil monoxime derivs. were reduced by (a) 0.2 moles I only for 0.1 mole of the oxime, (b) a mixt. of 0.15 mole I and 0.05 mole (iso-PrO)<sub>2</sub>AlCl (II), and (c), a boiling mixt. of 0.5 mole I in 1 l. C<sub>6</sub>H<sub>6</sub> and 150 ml. *M* soln. of II in C<sub>6</sub>H<sub>6</sub> to which a *M* soln. in C<sub>6</sub>H<sub>6</sub> of the substance to be reduced was added slowly (0.3-0.5 mole in 1-5 hrs.) while C<sub>6</sub>H<sub>6</sub> was distd. from the mixt. in the same amt. as added. The solvent was removed from the mixt. and the residue left overnight when the excess I and the Al complex formed decompd. by the air moisture. The product was four times boiled for 30 min. with five times its wt. of 90% EtOH, the combined exts. filtered and evapd., and the residue purified by crystn. or distn. Reduction of  $\alpha$ - and  $\beta$ -benzilmonoxime O-Me ether gave honeylike substances. The  $\alpha$ -isomer gave with BzCl in pyridine  $\alpha$ -benzoin oxime, O-Me ether benzene, m. 89°. Diacetylmonoxime reduced by method a gave 58% acetolin oxime.  $\alpha$ -Oximinoacetophenone reduced by method b gave 84% mandelic aldehyde oxime, m. 89°. Also by method b,  $\alpha$ -oximinopropiophenone gave 90% phenylacetylcarbinol oxime.  $\alpha$ -Oximinobutyrophenone gave 76% phenylpropionylcarbinol oxime and  $\alpha$ -oximinovaterophenone gave 82% phenylvalerylcarminal oxime. The

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George Gal, Istvan Foldesi, Mrs. Istvan Krasznai  
crude reaction mixture of  $\alpha$ -oximinopropiophenone reduced  
by method b on addn. (with cooling) of 20%  $H_2SO_4$  and  
steam distn. gave 87% phenylacetylcarbinol. 3-Oximino-  
2,4-pentanedione (III) reduced by method c gave 80%  
*2,4-dihydroxy-3-pentanone oxime*, m. 129° (EtOAc). III  
(32.4) in 100 ml.  $H_2O$  and 64.7 g. of  $CoCl_2 \cdot 6H_2O$  in 100 ml.

$H_2O$  mixed and treated with 70 g.  $AcONa \cdot 3H_2O$  in 150 ml.  
 $H_2O$  after several hrs. gave 27.3 g. Co chelate of III as a red-  
dish brown ppt., m. 160°, which is reduced by method  
c but much more slowly than III.  $Bz_2CH_2$  (97.2 g.) in  
350 ml. AcOH with 21.5 g.  $NaNO_2$  in 35 ml.  $H_2O$  at 16°  
stirred 2.5 hrs. gave 72 g. 2-oximino-1,3-diphenyl-1,3-  
propanedione which was reduced by method c to 87%  
*2-oximino-1,3-diphenyl-1,3-propanediol*, m. 161 (AcOEt-pet.  
ether).  $\alpha$ -Oximinoacetic ester was reduced by method c to  
87.5% *Et*  $\alpha$ -oximino- $\beta$ -oxybutyrate, b. 122. Oximino ketones,  
in which the syn and anti forms can not be isolated,  
can be reduced uniformly to  $\alpha$ -hydroxy aldoximes or hy-  
droxy ketoximes; with oximino ketones in which the two  
isomers can be sep'd., the two isomers show differing behav-  
iour in the reduction. The syn-acyl isomer can form a  
complex with I, and carbonyl groups taking part in the  
chelation cannot be reduced by I. By procedure c the  
formation of a chelate is kept to a min. so that even syn-  
acyl compds. can be reduced. *Saul Patai*

NAGY, Gyorgy, dr.; GAL, Gyula, dr.

Pathological data on essential pulmonary hypertension. Magy.  
belowv. arch. 13 no. 5:142-147 o '60.

1. A Fovarosi Istvan Korhaz (Igazgato: Katona Istvan dr.) Korbonctani  
Osztalyanak (Foovrvoe: Radnai Bela dr.) kozlemenye.  
(HYPERTENSION pathol)  
(PULMONARY ARTERY pathol)

VARGA, Laszlo, dr.; GAL, Gyula, dr.; CSAKANY, Gyorgy, dr.

X-ray findings on degenerative changes in the sterno-costal joint.  
Orv. hetil. 103 no.25:1165-1167 24 Je '62.

1. Orszagos Kardiologial Intezet, Rontgenosztaly es Fovarosi Istvan  
Korhaz, Prossectura.

(RIBS dis)

HUNGARY

GAL, Gyula, LESZKOVSZKY, Gyorgy, LENDVAI, Jeno; Chinoin Pharmaceutical Factory, Pharmacological Laboratory (Chinoin Gyogyszergyar, Farmakologiai Laboratorium), Budapest.

"Quantitative Evaluation of the Morphological Changes Obtained in Experimental Necrosis of the Cardiac Muscle."

Budapest, Kiserletes Orvostudomany, Vol XVIII, No 4, Aug 66, pages 398-402.

Abstract: [Authors' Hungarian summary] A quantitative morphological method was used to study the cardiac necrosis of rats produced with isoproterenol. By means of a mathematical-statistical comparison of the severity index numbers, obtained with a procedure based on the counting of the morphological building blocks of the changes, it was concluded that increasing doses of isoproterenol will lead to a development of significantly more severe necroses. The changes are made less severe by amine oxidase inhibitors and more severe by reserpine and guanetidine. The method could be useful for the quantitative evaluation of morphological changes resulting from various pharmacological experiments. All 26 references are Western. [Manuscript received 9 Aug 65.]

1/1

HUNG

2220. Determination of cocoa husk in cacao powder. Ilona Gál (*Khimicheskaya Promst*, 1953, 7 (10), 208-210; *Recueil Trav. Chim.*, 1954, Abstr. No. 43,753).—A sample of cacao powder (5 g) is extracted with 30 ml of ether; 75 ml of 70-per-cent methanol and 5 ml of conc.  $HNO_3$  are added to the residue and, after being heated for 30 min, the mixture is filtered. The residue is washed with hot water, ground and mixed with 16 ml of water and 0.6 ml of a 1 per cent. soln. of methylene blue. A drop of the suspension is examined microscopically in a Bucker chamber (magnification  $\times 300$ ) and the number of spirals (sclerotinal cells) and total visible particles are counted. The percentage of cocoa husk =  $a/0.32b$ , where  $a$  is the total number of spirals,  $b$  is the total number of visible particles and 0.32 is a factor established for four different kinds of ground cocoa beans. The method is applicable to cacao powder of any degree of fineness and also when the cocoa-husk content is less than one per cent. E. HAYES

GAL, I.

New methods in analytic chemistry. p. 1433. Vol. 9,  
No. 9, 1954. TEHNIKA. Beograd, Yugoslavia.

SOURCE: East European Accessions List, (EEAL) Library  
of Congress, Vol. 5, No. 8, August, 1956.

GAL, ILONA

MD ✓ Preparation of products of antibiotic effect from the peptide fraction of the partial hydrolyzate of keratin. József Gál (Chem. Inst., Budapest). *Magyar Kém. Polgári Szemle* 1954, 1955, 1956. — Peptide fractions, obtained by treating the partial hydrolyzates of hen feathers, wool wastes, and swine hoofs with 1-2% solns. of Na<sub>2</sub>S, were isolated and heated in 2-naphthol 3 hrs. at 135-143°. After removing 2-naphthol with ether, the 5% aq. solns. of peptides showed an antibacterial activity ( $\frac{1}{2}$  to  $\frac{1}{4}$  times that of penicillin) against *Staphylococcus aureus*.

István Fimly

GAL, I.

Research on utilization of swine hoofs. p. 314. Vol 9, no. 10, Oct. 1955. ELEMENZESI IPAR. Budapest, Hungary.

So; Eastern European Accession. Vol 5, no. 4, April 1956

Gal, Ilona

7/16

The formation of antibacterial substances from amino acids by heating with  $\beta$ -naphthol. Ilona Gal (Stud. Inst. Chem., Budapest). Hodge-Saylor's Z. physiol. Chem. 300, 72-5 (1958); cf. C.A. 51, 20334. Glycine,  $\alpha$ -alanine,  $\alpha$ -serine,  $\alpha$ -valine,  $\alpha$ -leucine,  $\alpha$ -isoleucine,  $\alpha$ -threonine,  $\alpha$ -cysteine-HCl, cystine,  $\alpha$ -methionine,  $\alpha$ -aspartic acid, glutamic acid, L-arginine,  $\alpha$ -braithine, lysine-HCl, histidine-HCl,  $\alpha$ -tryptophan,  $\alpha$ -proline,  $\alpha$ -phenylalanine, L-tyrosine, and asparagine, betaine, urea, glycyglycine, humins, and standard melanoidins were heated with  $\beta$ -naphthol for 3 hrs. at 138-142°. Of the products obtained only the ones from glycyglycine, histidine, arginine, glycine, and cystine were active in a 5% buffered sole, against *Staphylococcus aureus* and *Bacillus subtilis*. All products were inactive against *Escherichia coli*. The greatest activity was

shown by a yellow product formed to the extent of 1% in the case of glycine. This substance was active in dilution of 1:50,000 and could be sepd. by paper chromatography into a fluorescent, active substance and a non-fluorescent, inactive substance. Heating the amino acids and other compounds with anhyd. glycerol gave no activity except in the case of cysteine. S. N. 1/2

(PAB) DOWA

*Mer*

Antibiotically active substances from partial protein hydrolyzates. Ilova Gál (Stdt. Inst. Chem., Budapest). *Hoppe-Seyler's Z. physiol. Chem.* 303, 234-9 (1960). Peptide fractions from partial hydrolysis of feathers, wood, casein, or ovalbumin were heated with  $\beta$ -naphthol at 130° for 3 hrs. After extn. with Et<sub>2</sub>O to remove the  $\beta$ -naphthol, the peptide fractions were tested against bacteria for antibiotic activity. From the weakly active products a yellow

substance was sepd. by paper chromatography and further resolved into basic, acidic, and neutral fractions by ion exchange. The acidic fraction was active.  $\beta$ -Naphthol derivs. of water-sol. humic acids are assumed to be the active substances.

C. D. Johnson

GAL, Ilona; TOVERCZER, Johanna

Examination of the artificial radioactivity of some Hungarian foodstuffs. Magy kem folyoir 66 no.11:436-439 N '60.

1. Budapest Fovaros Vegyeszeti es Elelmiszervizsgalo Intezete, es Orszagos Onkologiai Intezet, Budapest.

GAL, Imre

The way we should support the execution of the program of  
the Hungarian Federation for Physical Education and Sports.  
Munka 14 no. 2: 32-33 F '64.

1. Szakszervezeti Megyei Tanacs kulturalis bizottsaga  
vezetöje es Megyei TS elnokhelyettese.

GAL I. Debreceni Tudományegyetem Belklinikájának Közleménye. Nephelometriás eljárás a serumcholinesterase aktivitásának meghatározására Nephelometric method for determination of the activity of serum cholinesterase Magyar Belorvosi Archivum 1948, 17/4 (198-209)  
Graphs 10 Tables 3

The method is based on the fact that acetic acid, liberated by hydrolysis of acetyl-choline, causes aggregation of globulins which can be measured nephelometrically. As serum sometimes shows only a slight opalescence, an 'indicator' (e.g. milk) is required. A mixture is made of 0.3 ml. serum, 0.3 ml of a 1: 10 dilution of boiled milk, 1 ml. 0.01 N-acetylcholine and 2.7 ml. distilled water. A standard tube is prepared in the same way but instead of the acetylcholine it contains 0.5 ml. of 0.01 N-acetic acid (corresponding to the amount liberated by 50% hydrolysis of the acetylcholine sample). The time taken for the development in the acetylcholine tube of an opalescence equal to that in the standard tube is the half-value period corresponding to the cholinesterase. The reciprocal of this figure is multiplied by 1000 to express the cholinesterase activity of the serum. Half-value periods for the sera of normal and pathological individuals are given.

Ambrus - Zurich

SO: Physiology, Biochemistry & Pharmacology 2.1 Jan.-June 1949

C.A.

116

**Clinical aspects of cholinesterase activity of serum. Preliminary communication.** Imre Gál and Lajos Végh (Tudományegyetemi Belklinika, Debrecen, Hung.). Magyar Belorvos Árck. 1, 210-220 (1948). - By the method published previously (C.A. 43, 9272b) the cholinesterase activity (1) of serums of 540 persons suffering from various diseases was detd. 1 of serum is not correlated with the sedimentation rate of blood cells, or with the no. of red blood corpuscles. Some parallelism was observed between 1 and the Takata test. 1 decreased in severe general diseases, in allergic disturbances, and with decrease of the albumin fraction. Increased activity was observed in sympatheticonic diseases. István Finály

GAL, I. 1948

"The Health Aspects of the Villages and Farms in the Reorganization Scheme of the Hungarian National Health Services."

Orvosok Lapja. Budapest, 1948 4/14(200-203)  
Abst: Exc. Med. IV, Vol. 11, No. 3, p. 310

GAL, I.  
(3532)

Medizinische Klinik and Stomatologische Klinik der Universitat in Debrecen, Ungarn.  
Uber Cholesterinesterase-Aktivitat im menschlichen Speichel On cholinesterase  
activity of the human saliva. Zeitschrift fur Stomatologie 1948, 45/9 (411-414) Graphs 3  
Human saliva has neither cholinesterase activity nor inhibitory action on this  
enzyme.

Roche - Paris

So: Excerpta Medica, Vol. II, No 7, Sec. II, July 1949

GAI, I.; JAVOR, T.; KESZTYUS, L.; LAZAR, J.; NIKODEMUSZ, I.; SZILLAGYI, T.; VEGH, L.

Effect of roentgen rays on diphtheria toxin. Acta physiol. hung. 2 no.  
3-4:533-537 1951.  
(CLML 22:1)

l. Of the Pathophysiological Institute and of the First Medical Clinic,  
Debrecen University.

GAL, I.; JAVOR, T.; KESZTYUS L.; LAZAR, J.; NIKODEMUSZ, I.; SZILAGYI, T.;  
VEGH, L.

Effect of roentgen rays on diphtheria toxin. Kiserlates Orvostud.  
3 no. 5:363-365 1951.  
(CLML 21:3)

1. Doctors except Javor and Lazar. 2. Institute of Pathology and  
First Internal Clinic of Debrecen Medical University.

GAL, I.; VEGH, L.

Data on the mechanism of local pain sensation and local analgesia;  
investigations on competitive ferment inhibition. Kiserletes orvo-  
stud. 3 no.6:435-443 1951. (CML 21:4)

1. Doctors. 2. First Internal Clinic, Debrecen Medical University.

*GAL, I.*

HANKISS, J.; GAL, I.; SAMU, I

Therapeutic trial in myotonia acquisita; a contribution to the pharmacology of the priscoline. Klin. Med. 9 no.3:123-126 1 Mar 54.  
(CJML 26:3)

1. Of the First Medical Clinic (Head--Prof. Bala Ferenc, M.D.) of Debrecen University.

VEGH, Lajos, dr.,; GAL, Imre, dr.

Experimental studies on localization of thoracic transudates.  
Orv. hetil. 97 no.23:620-630 3 June 56

1. A Debreceni Orvostudomanyi Egyetem I. sz. Beklinikajának  
(igazgató: Fornet Róla dr. egyet. tanár) közleménye.

(EXUDATES AND TRANSUDATES

transudates, pleural, localization in humans & rabbits  
in various pathol. cond. (Hun))

(PLEURA

transudates, localization in humans & rabbits in  
various pathol. cond. (Hun))

*Gal. I.*

✓ 3814. Preparation of antibiotically active substances from products of the partial hydrolysis of proteins. I. Gal. *Hoppe-Seyd. Z. physiol. Chem.*, 1956, 303, 234-239 (Stád. Inst. f. Chemie, Budapest, Hungary).—Peptide fractions obtained from a no. of proteins by partial hydrolysis were heated with  $\beta$ -naphthol. The products showed weak activity against *Staphylococcus aureus* and *Bacillus subtilis* but not *Escherichia coli*. (German) *P. H. H.*

GAL, Imre, dr.

Cooperation in sanitary education. Nepegeszssegugy 42 no.4:105-108  
Ap '61.

1. Kozlemeny az Egesssegugyi Miniszterium Egesssegugyi Felvilagositasi  
Kozpontjabol (igazgato: Matneki Janos dr.)

(HEALTH EDUCATION)

HARGITAI, Ferenc, dr.; GAL, Imre, dr.

Corticosteroid osteoporosis. Recurrent spontaneous compression fracture of the vertebra during corticosteroid therapy. Magy. Belorv. arch. 15 no.1:10-15 Fe '62.

1. Fovarosi Tetenyi u. korhaz (igazgato: Zellner Pa. dr.) I Belosztalya es Rontgenosztalya.

(ADRENAL CORTEX HORMONES toxicol) (OSTEOPOROSIS etiol)  
(SPINE dis)

GAL, Imre

A porous cathode with low heating capacity and high current density.  
Magy hir techn 12 no.5:192-194 0 '61.

1. Hiradastechnikai Tudomanyos Egyesulet tagja; Tavkozlesi Kutato  
Intezet.

GAL, Imre, az orvostudomanyok kandidatusa, foorvos

Report on the 2d Congress on Hungarian Radiologists. Magy  
tud 71 no.11:719-720 N '64.

1. Tetenyi Street Hospital, Budapest.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000614020002-6"

FERKO, Sandor, Dr, GAL, Imre, Dr. SZONYI, Istvan, Dr; Capital City Council  
Tetenyi Ave Hospital, Obstetrical-Gynecological Ward (chief physician: FERKO,  
Sandor, Dr) and Radiology (chief physician: GAL, Imre, Dr) (Fovarosi Tanacs  
Tetenyi Uti Korhaz, Szuleszeti-Nogyogyaszati Osztaly es Rontgen Osztaly),  
Budapest.

"Experiences With the Use of Cytostatic Compounds in Cases of Malignant  
Ovarian Tumors."

Budapest, Orvosi Hetilap, Vol 108, No 11, 12 Mar 67, pages 496-498.

Abstract: [Authors' Hungarian summary] Based on a literature survey and 7  
cases observed, the experiences gained in the course of the cytostatic therapy  
of malignant ovarian tumors are reported. The therapeutic principles (surgery  
and irradiation) used by the authors are described in detail, followed by a  
discussion concerning the particular phase in which cytostatic treatment is  
administered as well as the method and amount used. According to the authors'  
views, cytostatic therapy should be used in every case. Although sufficient  
time has not yet elapsed for the final evaluation of the good results achieved  
in the cases discussed, it is the opinion of the authors that the therapeutic  
approach advocated by them is convincingly justified by the absence of symp-  
toms and complaints in 5 patients, especially the incurable cases which had  
become suitable for radical surgery as well as those cases in which re-  
currences or metastases disappeared. 5 Hungarian, 36 Western references.

9.4110 (1003,1138,1331)

26904  
H/009/61/000/005/002/003  
D020/D105

AUTHOR: Gál, Imre, Member (see Association)

TITLE: L-cathode with low heating power and high current density

PERIODICAL: Magyar Hiradástechnika, no. 5, 1961, 192 - 194

TEXT: The author deals with the design and advantages of L-cathodes in general and describes a new type of L-cathode with 1.8-w heating power at 6.3 v, developed at the Egyesült Izzó Fejlesztési Főosztálya (Development Department of United Incandescent). The final version of this cathode which is based on an L-cathode, 3 mm in diameter, with 3.6-w heating power developed prior to 1955, was worked out at the Távközlési Kutató Intézet (Telecommunication Research Institute). Main parts and dimensions of the new cathode with 2 - 10-ma carrying capacity and 100-500-ma/sq cm operating current density, are shown in Fig. 1a. The cylindrical shell and the partition plate separating the active material reservoir from the heater compartment are made from 0.15-mm-thick molybdenum sheet. The 0.3 - 0.4-mm-thick porous plug is pressed at 200 atm from tungsten powder with 3- $\mu$  particles sintered at 1,600°C in an H atmosphere for 10 minutes.

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Card 1/ 4

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26904  
H/009/61/000/005/002/003  
D020/DL05

L-cathode with low heating power .....

The emitting surface is 1.8 mm in diameter. The active layer is made from a suspension of mixed Ba-Sr-Ca carbonates. The heat shielding cylinder shown in Fig. 1b is made from 0.15-mm-thick V2A material with 0.013 cal/cm.sec.degree heat conductivity. The shield with the three 0.5-mm-long and 0.3-mm-wide ribs on the lower end in direct contact with the cathode maintains the operating temperature  $T = 920^{\circ}\text{C}$  at 1.8 w by saving about 30% of heating power. The cathode is heated by an aluminum oxide coated hairpin filament. The activation was carried out gradually by increasing the heater voltage 1 v per minute. At 11 v and  $1,150^{\circ}\text{C}$ , the cathode was glowed for 2 minutes, then the heater voltage reduced to 7.5 v for 10 minutes to achieve the required emission stability. Fig. 3 shows the efficiency of the cathode at 20-v anode voltage and Fig. 4 the operating current density curve at  $920^{\circ}\text{C}$ . There are 4 figures and 5 references: 1 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows. I. Muller: Trans. of the IRE, PGED, 4, 1953, Dec p 33; E. Borne: Proc. IRE, 47, No. 9, 1950; W. Hawkins: Nature, 1954, 174.

ASSOCIATION: Hiradástechnikai Tudományos Egyesület (Communication Scientific Society); Távközlési Kutató Intézet (Telecommunication Research Institute).

Card 2/ 4

FORRO, Dezso; GAL, Istvan

Electronic circuits of long-distance dialing. Magy hir techn 12 no.2:  
64-69 Ap '61.

1. Beloiannisz Hiradastechnikai Gyar.

GAL, Istvan, foeloado

Changes in the railroad transportation tariff of live animals.  
Kozleked kozl 20 no.50:827-829 13 D '64.

1. Ministry of Transportation and Postal Affairs, Budapest.

~~István Gal~~ István Gal

Reaction rates of the formation of fatty amides. János Holló and István Gal. Yearbook Inst. Am. Chem. Techn. Comp. Tech. Sci. Budapest, Hung., 1952 III-1953 VIII, 18-31.

The rate of decompr. of  $\text{NH}_3$  palmitate (I) and of the simultaneous formation of palmitamide (II) were detd. to obtain data for the design of a suitable reaction vessel for the continuous manuf. of fatty amides. Tests involved 90-160° temp. for 0.75-8.0 hrs., and under  $\text{N}_2$ .  $\text{NH}_3$  was prep'd. by the method of Kench and Mulkin (cf. C.4, 33, 3332). In the reaction I yields II, palmitic acid,  $\text{NH}_3$  and  $\text{H}_2\text{O}$ . During the reaction samples were taken at intervals and analyzed. The sum of I and II was detd. with 0.1*N* HCl and phenolphthalein. I was detd. with Br-phenoxy as the indicator, and the difference corresponds to II. On the basis of reaction rates, the decompr. of I and the formation of II are reactions of the first order. The logarithm of the const. plotted as a function of  $1/T$  gives a straight line. This permits extrapolation of the const. for higher reaction temps.

I. A. Sallard

GAL, Istvan

✓ Air pollution in corn starch manufacturing plant. Jeno  
Toth and Istvan Gal. Yearbook Inst. Agr. Chem. Technol.  
Usz. Tech. Akad. Budapest, Hung. 1952 III-1954 VIII, 219- CII  
24.- To collect data for the design of suitable ventilating  
equipment the starch-dust and acid-fume content of the air  
were detd.

J. A. Salard

Gal, Istvan

Hungary/Chemical Technology - Chemical Products and Their Application. Medicinals. Vitamins. Antibiotics, I-18

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62928

Author: Gal, Istvan; Gombkoto, Geza

Institution: None

Title: Preparation of Crystalline Capsaicine

Original

Periodical: Kristalyos kapszaicin eloallitasa. Elelm. ipar., 1955, 9, No 10, 313-314; Hungarian; Russian, English, and German resumés

Abstract: A new method has been worked out for obtaining capsaicin. The latter crystallizes spontaneously from petroleum-ether extracts of plant materials and can be isolated in very pure form.

Card 1/1

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000614020002-6"

H-34

HUNGARY / Chemical Technology. Chemical Products and Their Application, Dyeing and Chemical Treatment of Textiles.

Abs Jour : Ref Zhur - Khim., No 3, 1958, No 10,097

Author : Kralik, Ivan; Gal, Istvan

Inst : Not given

Orig Pub : Magyar textiltechn., 1958, No 10, 385-386

Title : Certain Problems of Stable Hydrophobic Finishes II. Technological Part.

Abstract : Recommendations are given on carrying out the technological process of hydrophobic finishing fabrics out of cellulose fibers by use of "fobit" (F), a commercial product of the chlorinated stearylamidomethylpyridine type. When the fabric is dipped and then 100% wringed out, a 5 gm/l concentration of F is used (F is dissolved in denatured alcohol, then diluted with water). Concentrations of 5 gm/l are useless, as the excess of F does not bind and is washed out at the very first wash.  $\text{CH}_3\text{COONa}$  (33% of the amount of F) is added in order to neutralize

GAL 1

31. The twelve-channel telephony system "VK 12"  
S. L. I. K. I. G. (Magyar Hiradástechnika)  
Vol. 3, 1935, No. 1, pp. 172, pp. 166-182, 32 figs.

To meet the ever increasing demand on telephone service, a twelve channel basic system has been elaborated which can subsequently be increased to 24 and then to 60 channels. The new twelve channel system complies in every respect with the specifications of the CCIR, it contains crystal filters, dry plate rectifier modulators and crystal controlled oscillators. The audio-frequency input of the channels is made for 2 or 4 wire transmission, whereas the high frequency side is built for 4 wire transmission. The transmission is amplitude modulated and is carried out by the one side band system. The audio frequency band ranges from 300 to 3500 cps. Altogether 14 different carrier frequencies are required in the equipment, which must be generated with such accuracy that they be suitable for telegraphy service as well. This means that the stability should be at least  $10^{-4}$  which can be achieved with a thermostat enclosed tuning fork or quartz crystal controlled oscillator. A duplicate system of the essential parts of the carrier frequency generating equipment is provided; this system is kept in reserve, and automatically cuts in as soon as a fault occurs in the equipment. The control of the equipment is executed by means of a continuous pilot signal, which is controlled on the receiver end by instruments. If the pilot signal fades or falls completely, an alarm is released. The pilot frequency is 60 cps. The automatic indication of

(OVER)

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faults occurs on the transmitting as well as on the receiving end by acoustic and luminous signals. For feeding the equipment 220 V and 24 V a.c. and d.c. are necessary which are taken from the heavy current mains and from a storage battery with an emergency rotating converter.

GAL, I.

Up-to-date ringing and signaling transmission on multi-channel carrier circuits.

p. 70 (Magyar Híradástechnika. Vol. 8, no. 3, Sept. 1957. Budapest, Hungary)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,  
February 1958

GAL', I.

Staire helps. Pozh. delo 7 no. 1:27 Ja '60. (MIRA 14:2)

1. Inspektor Otdela pozharnoy okhrany, redaktor "Pozharnogo  
pertsya", g. Lutsk, Volynskaya oblasti'.  
(Fire prevention--Study and teaching)

GAL', I.

Living work. Pozh.delo 7 no.11:29 N '61. (MIRA 14:11)

1. Zamestitel' nachal'nika Otdela pozharnoy okhrany, Lutsk, Volynskaya oblast'.

(Volyn' Province--Fire prevention--Study and teaching)

GAL<sup>1</sup>, I., dots.

"Finances of intercollective farm building organizations" by  
N.Prikhod'ko, I.Ponomarenko, S.Likhoshva. Reviewed by I.Gal.  
Fin. SSSR 21 no.12:87-89 D '60. (MIRA 13:12)

1. Kiyevskiy institut narodnogo khozyaystva.  
(Collective farms--Interfarm cooperation)  
(Farm buildings)  
(Prikhod'ko, N.) (Ponomarenko, I.) (Likhoshva, S.)

GAL', I. [Hal', I.], dotsent

Let's improve the matter of creating capital assets and working capital for interfarm building organizations. Sil'. bud.  
11 no.9:5-7 S '61. (MIRA 14:11)

1. Kiyevskiy institut narodnogo khozyaystva.  
(Ukraine-- Construction industry--Finance)

GAL, Ivan

Yugoslav

"Action of Na cacodylate and colchicine on various dehydrogenases," Chem. Abs., 1939.

GAL, Ivan

Yugoslav

"Effect of org. acids on germination, growth and ascorbic acid content of wheat  
seedlings," Chem. Abs., 1941.

GAL, Ivan

Yugoslav

"Cholinesterase and the vegetative system," Chem. Abs., 1941.

GAL, Ivan

Yugoslav

"Estn. of cholinesterase activity in blood serum," Chem. Abs., 1949.

GAL, Ivan

Yugoslav

With P. Adler and L. Veigh, "Effect of structurally different local anesthetics on the cholinesterase activity of human serum," Chem. Abs., 1950.

GAL, Ivan

Yugoslav

With L. Vegh and J. Stangl, "Serum cholinesterase during pregnancy,"  
Chem. Abs., 1951.

GAL, Ivan

Yugoslav

With L. Vegh, "Cholinesterase activity of serum," Chem. Abs., 1952.

*GAL, IVAN*

Nuclear Science Abstracts  
July 15, 1954  
Chemistry

PREPARATION OF URANYL TETRAFLUORIDE BY  
PHOTOGYNTHESIS

Belgian Pat. No. 61-71 (1953) J. L.  
Bolton's photolytic synthesis of  $U_4F_9$  by the reduction of  
uranyl ion in the presence of formic acid under the  
influence of sunlight is discussed. A method for the  
photochemical preparation of  $UF_4$  is proposed, based on  
the reaction  $UO_2(NO_3)_2 + C_6H_6O \rightarrow HF + UF_4 + H_2O_2 +$   
 $CO_2 + H_2O$ . Optimum conditions for  $UF_4$  photosynthesis  
are discussed. (Z.T.)

Gal, I.

Analytical Chemistry

Cells

5

POLAROGRAPHIC DETERMINATION OF URANIUM IN  
ORES IN ASCORBIC ACID SUPPORTING ELECTROLYTEM. Basic, I. Gal and E. Cuker (Inst. of Nuclear Sciences  
"B. Kidrič", Belgrade, Yugoslavia). Anal. Chem. Acta 11,

586-9(1954) Dec.

A polarographic determination of uranium in ores using 0.5M L-ascorbic acid as supporting electrolyte is described. Four different ores were analyzed, and the results compared with those obtained by other analytical methods. No previous chemical separations were necessary. The method is simple, rapid, and seems to be suitable for routine analyses of samples with a uranium content above 0.01%. In the concentration range 0.01 to 0.05% the relative error of determination is 9 to 6%; above 0.05% the precision is much greater. Te, Ti, and Pb interfere in this method under the conditions described (pH 3.5 to 4.0), but this interference due to lead is eliminated in many cases by lowering the pH of the solution. (auth)

*Original 10/24*

GAL, Ivan

Ivan GAL  
"Extraction Methods," Tehnika, No. 1, 1955, p. 1.

Extraction methods used in inorganic analyses are described. Theoretical grounds important for practical work are also given. The author mentions extraction methods used in the extraction of: nitrates, chlorides, bromides, fluorides, etc., and also for some other inorganic compounds.

27 17  
✓ Extraction of chlorides from hydrochloric acid solutions  
with tributyl phosphate. Ivan L. Gal and Aleksandar  
Ruvancic. *Bull. Inst. Nuclear Sci. Boris Kidrich* (Bel-  
grade) 8, 07-74(1958).—The partition of the chlorides of  
 $H^+$ ,  $Fe^{+++}$ ,  $Fe^{++}$ ,  $UO_2^{++}$ ,  $Cd^{++}$ ,  $Ni^{++}$ ,  $Co^{++}$ ,  $Sr^{++}$ ,  
 $Zr^{++}$ ,  $Ce^{++}$ ,  $RuO_4^{++}$ , and  $VO_4^-$  between 30% by vol. of  
tributyl phosphate (I) in  $Bu_3O$  and aq. solns. of different  
HCl concns. was detd. The dependence of the extn. on  
the concn. of I in the org. phase for some of these elements  
was also investigated. Possibilities of mutual separ. are  
discussed and formulas for some of the complexes extd. are  
proposed.  
Bernard Ruljin

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Distr: 4E4J/4E3d

JJ Jn

GAL, Ivan; RUVARAC, Aleksandar

Separation of uranium, plutonium, and fission products on  
zirconium phosphate. Pt. 1. Bul Inst Nucl 13 no.1:1-17  
Ap '62.

1. The Boris Kidrich Institute of Nuclear Sciences, Hot Laboratory,  
Department, Vinca.

RUVARAC, A.; GAL, I.

Separation of uranium, plutonium, and fission products from the  $\text{HNO}_3$  solution on zirconium phosphate. Pt.2; abstracts. Glas Hem dr 27 no.9/10:487-488 '64

1. The Boris Kidric Institute, Hot-Laboratory Department, Belgrade-Vinca.

GAL,I.

Reprocessing exhausted nuclear fuel at the Boris Kidric  
Institute of Nuclear Sciences, Vinca; abstract. Glas Hem dr  
27 no.9/10s483 '64

1. The Boris Kidric Institute of Nuclear Sciences, Hot-Laboratory Department, Belgrade-Vinca.

GAI, Ivan, dr hem.

Reprocessing of nuclear fuel. Nuklear energija 1 no.2/3:15-18 '64.

1. Head, High-Power Laboratory of the Boris Kidric Institute of Nuclear Sciences, Belgrade-Vinca.

Gál, I. S.

Gál, I. S. A theorem on convex curves. Acta Univ.  
Szegedi Sect. Sci. Math. 11, 167-168 (1947).

An independent proof (for convex polygons and thence  
by passage to the limit for convex curves) of a result of  
A. Rényi [preceding review, inequality 1)].

L. G. Young (Princeton, N. J.).

Source: Mathematical Reviews, 1948, Vol 9, No. 3